## CLAIMS

- 1. A composition for treating a keratinous material comprising:
  - (a) a cosmetically acceptable medium,
  - (b) at least one hydroxycarboxylic acid or a salt thereof of formula (I):

 $R-(CHOH)_4-CO_2X \qquad (I),$ 

## wherein,

- R represents a CO<sub>2</sub>X group, and
- X represents a hydrogen atom or a monovalent or divalent cation derived from a transition metal, alkali metal, alkaline-earth metal, organic amine or ammonium ion,

and,

(c) at least one of protective agent and conditioning agent,

wherein said conditioning agent is a synthetic oil, plant oil, fluoro or perfluoro oil, natural or synthetic wax, silicone, non-polysaccharide cationic ceramide polymer, compound of type, cationic surfactant, fattv fatty acid amine, or orderivative or mixture thereof.

- 2. The composition of claim 1, wherein said keratinous material is hair.
- 3. The composition of claim 1, wherein said monovalent or divalent cation is an alkali metal cation, alkaline-earth metal cation or divalent transition metal cation.
- 4. The composition of claim 1, wherein said at least one hydroxycarboxylic acid or a salt thereof of formula (I) is mucic acid, glucaric acid, mannaric acid, an alkali metal salt thereof, an alkaline-earth metal salt thereof, a transition metal salt thereof, or a mixture thereof.
- 5. The composition of claim 4, wherein said at least one hydroxycarboxylic acid or a salt thereof of formula (I) is mucic acid.
  - 6. The composition of claim 1, wherein the content of

said at least one hydroxycarboxylic acid or a salt thereof of formula (I) is from 0.001% to 10% by weight relative to the total weight of the composition.

- 7. The composition of claim 6, wherein said content of said at least one hydroxycarboxylic acid or a salt thereof of formula (I) is from 0.001% to 5% by weight relative to the total weight of the composition.
- 8. The composition of claim 1, wherein said protective agent is an organic UV-screening agent, free-radical scavenger, antioxidant, vitamin or provitamin.
- 9. The composition of claim 8, wherein said organic UV-screening agent is a silicone or non-silicone, water-soluble, liposoluble or water-insoluble organic screening agent or mineral oxide nanoparticles wherein the surface of said mineral oxide nanoparticles has been optionally treated.
- 10. The composition of claim 9, wherein said surface of said mineral oxide nanoparticles has been treated to be hydrophilic or hydrophobic.
- The composition of claim 9, wherein said watersoluble organic UV-screening agent is para-aminobenzoic acid or its salt, anthranilic acid or its salt, salicylic acid or its salt, p-hydroxycinnamic acid or its salt, sulphonic thereof, benzoxazoles salt sulphonic derivative of orbenzophenone or salt thereof, derivative of salt thereof, benzylidenecamphor orderivative of benzylidenecamphor derivative substituted with a quaternary amine or salt thereof, phthalylidene-camphorsulphonic acid thereof, sulphonic derivative derivative salts of orbenzotriazole, hydrophilic polymer with a UV-photoprotective property, or a mixture thereof.
- The composition of claim 9, wherein said liposoluble 12. UV-screening agent is а p-aminobenzoic organic acid dibenzoylmethane salicylic derivative, derivative, derivative, derivative, diphenylacrylate benzofuran derivative, polymeric UV-screening agent containing one or more organosilicon residue, cinnamic acid ester, camphor

derivative, trianilino-s-triazine derivative, urocanic acid ethyl ester, benzotriazole, hydroxyphenyltriazine derivative, bis-resorcinol-dialkylaminotriazine, or a mixture thereof.

- 13. The composition of claim 12, wherein said p-aminobenzoic acid derivative is a p-aminobenzoic acid ester or amide.
- 14. The composition of claim 12, wherein said salicylic acid derivative is a salicylic acid ester.
- 15. The composition of claim 12, wherein said liposoluble organic UV-screening agent is octyl salicylate, 2-hydroxy-4-methoxybenzophenone, 4-tert-butyl-4'-methoxydibenzoylmethane, octocrylene, 2-ethylhexyl 4-methoxycinnamate, or the compound of formula (II)

- The composition of claim 1, wherein said synthetic oil is polyolefin of hydrogenated or non-hydrogenated non-hydrogenated polybutene type οf hydrogenated ororpolydecene type.
- 17. The composition of claim 1, wherein said cationic polymer is a polymer comprising at least one primary, secondary, tertiary or quaternary amine group that is either a part of the main polymer chain or a side substituent directly attached thereto.
- 18. The composition of laim 17, wherein said cationic polymer is a cationic cyclopolymer, quaternary vinylpyrrolidone polymer, quaternary vinylimidazole polymer, or a mixture thereof.

- 19. The composition of claim 18, wherein said cyclopolymer is a homopolymer of diallyldimethylammonium chloride, or a copolymer of diallyldimethylammonium chloride or of acrylamide.
- 20. The composition of claim 1, wherein said silicone is polyorganosiloxane wherein said polyorganosiloxane is insoluble in said composition.
- 21. The composition of claim 20, wherein said silicone is non-volatile polyorganosiloxane chosen from polyalkylsiloxane, polyarylsiloxane, polyalkylarylsiloxane, silicone gum, silicone resin, polyorganosiloxane modified with an organofunctional group, or a mixture thereof.
  - 22. The composition of claim 21, wherein
    - (a) said polyalkylsiloxane is:
      - polydimethylsiloxane containing a trimethylsilyl end group
      - polydimethylsiloxane containing a dimethylsilanol end group or
      - polyalkyl(C<sub>1</sub>-C<sub>20</sub>)siloxane;
    - (b) said polyalkylarylsiloxane is:
      - linear and/or branched polydimethylmethylphenylsiloxane or polydimethyldiphenylsiloxane with a viscosity of between 1×10<sup>-5</sup> and 5×10<sup>-2</sup> m<sup>2</sup>/s at 25°C;
    - (c) said silicone gum is polydiorganosiloxane with average molecular weight of between 200 000 and 1 000 000, wherein said polydiorganosiloxane is used alone or in the form of a mixture in a solvent;
    - (d) said silicone resin is the group consisting of  $R_3SiO_{1/2}$ ,  $R_2SiO_{2/2}$ ,  $RSiO_{3/2}$  and  $SiO_{4/2}$ , wherein R represents a hydrocarbon-based group containing 1 to 16 carbon atoms or a phenyl group; and
    - (e) said polyorganosiloxane modified with an organofunctional group is polyorganosiluxane comprising at least one organofunctional group

attached via a hydrocarbon-based radical.

- 23. The composition of claim 22, wherein said silicone gum is:
  - polydimethylsiloxane,
  - polydimethylsiloxane/methylvinylsiloxane,
  - polydimethylsiloxane/diphenylsiloxane,
  - polydimethylsiloxane/phenylmethylsiloxane,
  - polydimethylsiloxane/diphenylsiloxane/methylvinylsiloxane,
  - a mixture of polydimethylsiloxane hydroxylated at the chain end and cyclic polydimethylsiloxane,
  - a mixture of polydimethylsiloxane gum and cyclic silicone or
  - a mixture of polydimethylsiloxanes with different viscosities.
- 24. The composition of claim 22, wherein said polyorgansilxane modified within an organofunctional group is polyorganosiloxane comprising:
  - a) a polyethyleneoxy group;
  - a polypropyleneoxy group;
  - c) a substituted amine group;
  - d) an unsubstituted amine group;
  - e) a thiol group;
  - f) an alkoxylated group;
  - g) a hydroxyalkyl group;
  - h) an acyloxyalkyl group;
  - an alkylcarboxylic group;
  - j) a 2-hydroxyalkylsulphonate group;
  - k) a 2-hydroxyalkylthiosulphonate group; or
  - 1) a hydroxyacylamino group.
- 25. The composition of claim 22, wherein said polyalkylsiloxane is polyorganosiloxane comprising:
  - a) a trimethylsilyl end group,
  - b) a dimethylsilanol end group,
  - c) polyalkylarylsiloxane
  - d) a mixture of two PDMSs consisting of a gum and

an oil with different viscosities,

- e) a mixture of organosiloxanes or
- f) a mixture of cyclic silicone and organopolysiloxane resin.
- 26. The composition of claim 1, wherein said compound of ceramide type is
  - 2-N-linoleoylaminooctadecane-1,3-diol,
  - 2-N-oleoylaminooctadecane-1,3-diol,
  - 2-N-palmitoylaminooctadecane-1,3-diol,
  - 2-N-stearoylaminooctadecane-1,3-diol,
  - 2-N-behenoylaminooctadecane-1,3-diol,
  - 2-N-[2-hydroxypalmitoyl]aminooctadecane-1,3-diol,
  - 2-N-stearoylaminooctadecane-1,3,4-triol and in particular N-stearoylphytosphingosine,
  - 2-N-palmitoylaminohexadecane-1,3-diol,
  - bis (N-hydroxyethyl-N-cetyl) malonamide,
  - N-(2-hydroxyethyl)-N-(3-cetyloxy-2-hydroxypropyl)cetylamide,
  - N-docosanoyl-N-methyl-D-glucamine,

or a mixture thereof.

- 27. The composition of the claim 1, wherein said protective or conditioning agent is present in a concentration from 0.001% to 20% relative to the total weight of the composition.
- 28. The composition of claim 27, wherein said concentration is from 0.01% to 10% by weight relative to the total weight of the composition.
- 29. The composition of claim 1, further comprising at least one surfactant chosen from anionic, nonionic, amphoteric surfactant or a mixture thereof.
- 30. The composition of claim 29, wherein said at least one surfactant is present in a concentration from 0.1% to 60% by weight relative to the total weight of the composition.
- 31. The composition of claim 30, wherein said concentration is from 1% to 40% by weight relative to the total weight of the composition.

- 32. The composition of claim 31, wherein said concentration is from 5% to 30% by weight relative to the total weight of the composition.
- 33. The composition of claim 1, wherein said composition is a shampoo, a conditioner, a composition for permanent-waving, relaxing, dyeing or bleaching the hair, a rinse-out composition to be applied before and/or after a dyeing or bleaching operation, a rinse-out composition to be applied before and/or between the two steps of a permanent-waving or hair-relaxing operation, or a washing composition for the body.
- 34. A method of washing a keratinous material comprising applying said composition of claim 1 to said keratinous material and then rinsing said composition from said keratinous material with water.
- 35. A method of treating a keratinous material comprising applying said composition of claim 1 to said keratinous material and then optionally rinsing with water.